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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/513,097

05/20/2005

David Eric Appleford

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EXAMINER

BASTIANELLI, JOHN

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

05/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/513,097

Applicant(s)

APPLEFORD ET AL.

Examiner

John Bastianelli

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13 and 16 is/are rejected.
- 7) ☒ Claim(s) 10-12, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/29/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant has not provided sufficient disclosure about the spring means having different stiffnesses at different points along its length. Does this mean that separate spring means have different stiffnesses or that separate spring means have the same stiffnesses but have different stiffnesses as it moves?

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9, 13 and 16, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Gruner US 3,920,044.

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Gruner discloses a valve having a choke means having at least one passageway s and control means 8 adjusting the size of the passageway to adjustably choke a flow of fluid through the valve wherein the choke means includes spring means 12' with parts between which the at least one passageway is situated whereby deformation of the spring means by the control means alter the size of the at least one passageway for adjusting the flow of fluid through the valve, characterized in that the spring means comprises a plurality of discrete spring elements arranged to bear directly or indirectly on each other. The passageway includes confronting parts that directs parts of the flow against each other, the spring means is substantially cylindrical and flows outside to inside of the spring means, the spring means is seen as inherently having different stiffnesses at different points along its length, some of the spring elements have plural apertures that substantially confront each other, the spring elements are spring washers, have annular locating rings (outer 12 or 12') that have complementary confronting surfaces which define a passageway.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Alternatively, claim 4, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Gruner US 3,920,044 in view of Feild US 4,901,978.

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7. Gruner lacks a mention of the spring means having different stiffnesses at different points along its length. Feild discloses a spring means 374 having different stiffnesses at different points along its length. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the spring means of Gruner have different stiffnesses at different points along its length as disclosed by Feild in order to provide less acceleration when closing and more acceleration when opening in order to operate faster.

8. Alternatively, claim 4, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Gruner US 3,920,044 in view of Mena US 2,896,663.

Gruner lacks a mention of the spring means having different stiffnesses at different points along its length. Mena discloses a spring means having different stiffnesses at different points along its length. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the spring means of Gruner have different stiffnesses at different points along its length as disclosed by Mena in order to provide flow more or less initial flow.

***Allowable Subject Matter***

9. Claims 10-12 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for the allowance of claims 10-12 is the confronting surfaces of the locating rings at an oblique angle to the longitudinal axis in combination with the rest of the device as cited in claims 9/8/7/1. The primary reason for the allowance of claims 14-15 is the second set

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of locating rings on the outer or inner peripheries of the spring washers in combination with the rest of the device as cited in claims 13/9/8/7/1.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brecht and Allen disclose spring washers as a spring valve. Barb, Jachau, Gongwer, and Watts disclose spring valves. Wood, Modes, Kato and Richeson disclose springs with different stiffnesses along its length.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Bastianelli whose telephone number is (571) 272-4921. The examiner can normally be reached on M-Th (8-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John Bastianelli  
Primary Examiner  
Art Unit 3753



JB

April 20, 2007